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EXAMINER	
GREENE, JOSEPH L	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/821,105	NISHIDA, YOSHIFUMI	
	Examiner	Art Unit	
	JOSEPH L. GREENE	2151	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _04 March 2008_.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-39_ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-39_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _04 March 2008_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☒ Other: _RFC 2581_.

DETAILED ACTION

1. Claims 1 – 39 are pending in this application.

2. Claims 1-5, 10, 13-14, 18, 24, 27, 34, and 37 are currently amended.

Claim Objections

3. The amendment presented on 3 April 2008 providing change to claims 1-3, 5-6, and 10 is noted and all corresponding objections to the claims are hereby withdrawn. However, the objection to claim 13 has not been addressed and thus, has not been withdrawn.

Specification

4. The amendment presented on 3 April 2008 providing changes to the specification is noted and all corresponding objections to the specification are hereby withdrawn.

Drawings

5. The amendment presented on 3 April 2008 providing changes to the Drawings is noted and all corresponding objections to the Drawings are hereby withdrawn.

Claim Rejections - 35 USC § 112

6. The amendment presented on 3 April 2008 providing change to claims 1-12 and 18-21 is noted and all corresponding rejections to the claims are hereby withdrawn. However, the rejection to claim 13 has not been addressed and thus, has not been withdrawn.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. **Claims 1-8, 10-17, 22-32, and 36-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshimura et al. (Patent No US 6,125,397), hereinafter Yoshi, in view of Brown et al. (US Patent No 7,266,613 B1) hereinafter Brown and further in view of Samuels et al (PG-PUB US 2005/0005024 A1) hereinafter Sam.**

9. With respect to claim 1, Yoshi teaches a system for controlling network congestion, comprising: a device configured for communicating over a network (abstract); and for setting congestion control parameters for a sender in response to estimating network bandwidth (abstract & Col 2, Lines 11-25), but Yoshi doesn't teach packets being sent back-to-back. However, Brown teaches a system in which packets are sent back-to-back (Col 5, Lines 23-30 & Col 6, Lines 31-40, Brown sends back-to-

back packet pairs and also uses a multiple measurement technique). It would have been obvious to a person, of ordinary skill in the art, at the time of the invention to modify the teachings of Yoshi by sending packets back-to-back or sequentially. The practice of doing so was in common use for bandwidth measurement.

Yoshi in view of Brown, however, does not teach explicitly indicating which packets are being sent back-to-back. However, Sam teaches a system indicating packets based off of their status ([0146] & [0147], in Sam's case, the status indicated is packet fragmentation that implies the packets are being sent sequentially). It would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the teachings of Yoshi and brown by utilizing the method of Sam to indicate packets being sent back-to-back as a method of reducing network congestion. Doing so would allow bandwidth estimators to make more accurate accounts for their distributions; Thus improving efficiency of the system.

10. As for claim 2, it is rejected on the same basis as claim 1 above. In addition, Sam discloses a means for estimating the number of back-to-back packets received within a receiver from a sender and utilizing that information in conjunction with the explicit back-to-back packet information ([0148], Sam keeps track of the sequence number of the indicated packets received).

11. As for claim 3, it is rejected on the same basis as claim 2 above. In addition Brown teaches wherein said estimating of back-to-back packets received from a sender

comprises determining the amount of data within acknowledgement packets (ACKs) (Col 8, Lines 23-26) and/or determining whether transmissions were sent back-to-back in response to examining packet timestamps (Col 15, Lines 26-30).

12. As for claim 4, it is rejected on the same basis as claim 2 above. In addition, Sam teaches wherein said back-to-back estimates are utilized for checking the presence and validity of explicit back-to-back indications from a sender [0148]. Sam keeps track of sequence numbers.

13. As for claim 5, it is rejected on the same basis as claim 2 above. In addition, Sam teaches wherein said back-to-back estimates are utilized when explicit back-to-back packet indications being received from a sender are either not available or appear erroneous [0148]. Sam keeps track of sequence numbers.

14. As for claim 6, it is rejected on the same basis as claim 1 above. Yoshi teaches wherein said setting of congestion control parameters for a sender regulates packet transmissions by said sender in response to available bandwidth between said sender and the receiver (abstract & Col 2, Lines 11-25).

15. As for claim 7, it is rejected on the same basis as claim 1 above. In addition, Yoshi discloses wherein said network operates according to a transport control protocol (TCP) (Col 17, Lines 7-9).

16. As for claim 8, it is rejected on the same basis as claim 1 above. In addition, Sam teaches wherein said explicit back-to-back packet indications comprise modulating the setting of at least one header bit indication back-to-back status of packets being transmitted ([0146] & [0147]).

17. As for claim 10, it is rejected on the same basis as claim 1 above. Adjusting the packet train size by adjusting the rates that acknowledgements are transmitted is a common practice used within a congestion window with respect to a slow start technique.

18. As for claim 11, it is rejected on the same basis as claim 1 above. It would have been obvious to a person of ordinary skill in the art at the time of the invention to utilize slow start threshold parameters as it was a practice in common use.

19. As for claim 12, it is rejected on the same basis as claim 1 above. It would have been obvious to a person of ordinary skill in the art at the time of the invention to a command window as it was a practice in common use.

20. As for claim 13, it is rejected on the same basis as claim 1 above. In addition, Yoshi teaches a computer within said device (Fig. 1) but doesn't teach packets being sent back-to-back. However, Brown teaches a system in which packets are sent back-

to-back (Col 5, Lines 23-30 & Col 6, Lines 31-40, Brown sends back-to-back packet pairs in a multiple measurement technique). It would have been obvious to a person, of ordinary skill in the art, at the time of the invention to modify the teachings of Yoshi by sending packets back-to-back or sequentially. The practice of doing so was in common use for bandwidth measurement.

Yoshi in view of Brown, however, does not teach marking packets. However, Sam teaches a system marking packets based off of their status ([0146] & [0147], in Sam's case, the status indicated is packet fragmentation that implies the packets are being sent sequentially). It would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the teachings of Yoshi and brown by utilizing the method of Sam to indicate packets being sent back-to-back as a method of reducing network congestion. Doing so would allow bandwidth estimators to make more accurate accounts for their distributions; Thus improving efficiency of the system. The rest of the limitations in claim 13 are rejected for the same reasons as in claim 1 above.

21. With respect to claim 14, Brown teaches a system for controlling network congestion comprising a device configured for communication over a network. A processor within said device configured for controlling the sending and receiving of packets over said network; and programming configured for executing on said processor for estimating bandwidth and establishing congestion control parameters in response to said network bandwidth estimates (abstract & Col 2, Lines 11-25), but

Yoshi doesn't teach marking packets to explicitly indicate if they are sent back-to-back and estimating network bandwidth in response to receipt of said explicit indications of back-to-back packets. However, Brown teaches a system in which packets are sent back-to-back (Col 5, Lines 23-30 & Col 6, Lines 31-40, Brown sends back-to-back packet pairs in a multiple measurement technique). It would have been obvious to a person, of ordinary skill in the art, at the time of the invention to modify the teachings of Yoshi by sending packets back-to-back or sequentially. The practice of doing so was in common use for bandwidth measurements.

Yoshi in view of Brown, however, does not teach marking packets to explicitly indicate if they are being sent back-to-back or estimating network bandwidth in response to receipt of said explicit indications of back-to-back packets. However, Sam teaches a system marking packets based off of their status ([0146] & [0147], in Sam's case, the status indicated is packet fragmentation that implies the packets are being sent sequentially). It would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the teachings of Yoshi and Brown by utilizing the method of Sam to indicate packets being sent back-to-back as a method of reducing network congestion. Doing so would allow bandwidth estimators to make more accurate accounts for their distributions; Thus improving efficiency of the system. Furthermore, it would have been obvious to a person having ordinary skill in the art at the time of the invention to estimate network bandwidth based off of the marked packets. Doing so would allow bandwidth estimators to make more accurate accounts for their distributions; Thus improving efficiency of the system.

22. As for claim 15, it is rejected on the same basis as claim 14 above. In addition, Yoshi discloses wherein said network communications are performed according to a transport control protocol (TCP) (Col 17, Lines 7-9).

23. As for claim 16, it is rejected on the same basis as claim 14 above. In addition, Sam teaches wherein bits in the header are used for marking packets with explicit back-to-back packet sending indications ([0146] & [0147]).

24. As for claim 17, it is rejected on the same basis as claim 16 above. In addition, Sam teaches wherein said header bits comprise unreserved bits according to the transport control protocol (TCP) standard [0146]. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use unreserved bits in a header. Not doing so could corrupt the data being transmitted.

25. As for claim 22, it is rejected on the same basis as claim 14 above. It would have been obvious to a person of ordinary skill in the art at the time of the invention to utilize slow start threshold parameters as it was a practice in common use.

26. As for claim 23, it is rejected on the same basis as claim 14 above. It would have been obvious to a person of ordinary skill in the art at the time of the invention to a command window as it was a practice in common use.

27. As for claim 24, it is rejected on the same basis as claim 14 above. Adjusting the packet train size by adjusting the rates that acknowledgements are transmitted is a common practice used within a congestion window with respect to a slow start technique.

28. As for claim 25, it is rejected on the same basis as claim 14 above. In addition, Sam teaches wherein said marking of packets is performed for every packet sent or performed in response to congestion ([0146], the prior art states the ack for every fragmented packet will be marked.).

29. With respect to claim 26, Yoshi teaches a system for controlling network congestion, comprising: a device configured for communicating over a network (abstract & Col 2, Lines 11-25); a processor within said device configured for controlling the sending and receiving of packets over said network; and programming configured for executing on said processor (Fig. 1), but Yoshi doesn't teach controlling the length of packet trains transmitted by the sender in response to altering the rate at which receipt acknowledgements (ACKs) are communicated from the receiver to said sender as based on estimated network bandwidth or estimating network bandwidth in response to receipt of explicit indications of back-to-back packets or utilizing back-to-back packet estimations. However, controlling the length of packet trains is a method of fixing

network congestion. It would have been obvious to a person of ordinary skill in the art at the time of the invention to utilize the method for efficient congestion controlling. Furthermore, Brown teaches a system in which packets are sent back-to-back (Col 5, Lines 23-30 & Col 6, Lines 31-40, Brown sends back-to-back packet pairs in a multiple measurement technique). It would have been obvious to a person, of ordinary skill in the art, at the time of the invention to send packets back-to-back or sequentially. The practice of doing so was in common use.

Yoshi in view of Brown, however, does not teach marking packets to explicitly indicate if they are being sent back-to-back or estimating network bandwidth in response to receipt of said explicit indications of back-to-back packets or utilizing back-to-back packet indications. However, Sam teaches a system marking packets based off of their status ([0146] & [0147], in Sam's case, the status indicated is packet fragmentation that implies the packets are being sent sequentially). It would have been obvious to a person having ordinary skill in the art at the time of the invention to utilize the method of Sam to indicate packets being sent back-to-back as a method of reducing network congestion. Doing so would allow bandwidth estimators to make more accurate accounts for their distributions; Thus improving efficiency of the system. Furthermore, it would have been obvious to a person having ordinary skill in the art at the time of the invention to estimate network bandwidth based off of the marked packets. Doing so would allow bandwidth estimators to make more accurate accounts for their distributions; Thus improving efficiency of the system.

30. With respect to claim 27, Yoshi teaches a method of using bandwidth estimation to improve transport control protocol (TCP) congestion control within a packet based network, comprising: estimating bandwidth and communicating congestion control parameters to a sender in response to said bandwidth estimates (abstract & Col 2, Lines 11-25), but Yoshi doesn't teach marking each packet, explicitly, that is being sent back-to-back to a receiver. Yoshi also doesn't teach packets explicitly marked as back-to-back packets. However, Brown teaches a system in which packets are sent back-to-back (Col 5, Lines 23-30 & Col 6, Lines 31-40, Brown sends back-to-back packet pairs in a multiple measurement technique). It would have been obvious to a person, of ordinary skill in the art, at the time of the invention to modify the teachings of Yoshi by sending packets back-to-back or sequentially as taught by Brown. The practice of doing so was in common use for bandwidth measurements.

Yoshi in view of Brown, however, does not teach explicitly indicating which packets are being sent back-to-back. However, Sam teaches a system indicating packets based off of their status ([0146] & [0147], in Sam's case, the status indicated is packet fragmentation that implies the packets are being sent sequentially). It would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the teachings of Yoshi and Brown by utilizing the method of Sam to indicate packets being sent back-to-back as a method of reducing network congestion. Doing so would allow bandwidth estimators to make more accurate accounts for their distributions; Thus improving efficiency of the system.

31. As for claim 28, it is rejected on the same basis as claim 27 above. In addition, Sam discloses estimating the number of packets being received back-to-back and utilizing said packet number estimates in conjunction with the explicit back-to-back packet information when estimating bandwidth ([0148], Sam keeps track of the sequence number of the indicated packets received). \

32. As for claim 29, it is rejected on the same basis as claim 28 above. In addition, Brown teaches wherein said estimating of back-to-back packets received from a sender comprises estimating the amount of data within acknowledgement packets (ACKs) (Col 8, Lines 23-26) and/or estimating whether transmissions were sent back-to-back in response to examining a packet timestamps (Col 15, Lines 26-30).

33. As for claim 30, it is rejected on the same basis as claim 28 above. In addition, Sam teaches wherein said back-to-back estimates are utilized for checking the presence and validity of explicit back-to-back indications from a sender [0148]. Sam keeps track of sequence numbers.

34. As for claim 31, it is rejected on the same basis as claim 28 above. In addition, Sam teaches wherein said back-to-back estimates are utilized when explicit back-to-back packet indications being received from a sender are either not available or appear erroneous [0148]. Sam keeps track of sequence numbers.

35. As for claim 32, it is rejected on the same basis as claim 27 above. In addition, Sam teaches wherein said explicit back-to-back packet indications comprise modulating the setting of at least one header bit indication back-to-back status of packets being transmitted ([0146] & [0147]).

36. As for claim 36, it is rejected on the same basis as claim 27 above. Adjusting the packet train size by adjusting the rates that acknowledgements are transmitted is a common practice used within a congestion window with respect to a slow start technique.

37. As for claim 37, it is rejected on the same basis as claim 36 above. In addition, Brown teaches a predetermined number of packet receptions before packet acknowledgements. Utilizing this method we show that it is obvious that there will be a predetermined number of packet receptions. In most cases it is likely 1.

38. As for claim 38, it is rejected on the same basis as claim 27 above. It would have been obvious to a person of ordinary skill in the art at the time of the invention to utilize slow start threshold parameters as it was a practice in common use.

39. As for claim 39, it is rejected on the same basis as claim 27 above. It would have been obvious to a person of ordinary skill in the art at the time of the invention to a command window as it was a practice in common use.

40. **Claims 9, 18-21, and 33-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshi, in view of Brown and Samuels as applied to claims 1, 14, 27 above, and further in view of Huang et al (PG-PUB No US 2003/0103453 A1) hereinafter Huang.**

41. As for claim 9, it is rejected on the same basis as claim 1 above. The combination of Yoshi, Brown, and Sam discloses indicating back-to-back status of packets being transmitted, but the combination of Yoshi, Brown, and Sam does not disclose modulating the setting of the maximum segment size (MSS). However, Huang teaches modulating the setting of the maximum segment size (MSS) [0068]. It would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the teachings of Yoshi, Brown, and Sam with the teachings of Huang in order to improve the data flow corresponding to available bandwidth.

42. As for claim 18, it is rejected on the same basis as claim 14 above. The combination of Yoshi, Brown, and Sam do not disclose that maximum segment size is modified. However, Huang teaches wherein maximum segment size is modified [0068]. It would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the teachings of Yoshi, Brown, and Sam with the teachings of Huang in order to improve the data flow corresponding to available bandwidth and utilizing that method as part of a congestion control scheme in accordance with claim

14. Doing so improves the efficiency of a network. Furthermore, the rest of the limitations of the claim are rejected for the same reasons as claim 14.

43. As for claim 19, it is rejected on the same basis as claim 18 above. The combination of Yoshi, Brown, and Sam do not disclose the size of packets being sent is modulated. However, Huang teaches wherein the size of packets being sent is modulated [0068]. It would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the teachings of Yoshi, Brown, and Sam with the teachings of Huang in order to improve the data flow corresponding to available bandwidth and utilizing that method as part of a congestion control scheme. Doing so improves the efficiency of a network. Furthermore, the rest of the limitations of the claim are rejected for the same reasons as claim 18.

44. As for claim 20, it is rejected on the same basis as claim 19 above. The combination of Yoshi, Brown, and Sam do not disclose said size of packets being sent is reduced from the maximum segment size (MSS) value, However, Huang teaches wherein said size of packets being sent is reduced from the maximum segment size (MSS) value [0068]. It would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the teachings of Yoshi, Brown, and Sam with the teachings of Huang in order to improve the data flow corresponding to available bandwidth and utilizing that method of part of a congestion control scheme. Doing so

improves the efficiency of a network. Furthermore, the rest of the limitations of the claim are rejected for the same reasons as claim 19.

45. As for claim 21, it is rejected on the same basis as claim 20 above. In addition, Sam teaches wherein said predetermined number of bits can be 1, 2, or 4 bits ([0146] & [0147]).

46. As for claim 33, it is rejected on the same basis as claim 27 above. The combination of Yoshi, Brown, and Sam do not disclose said explicit back-to-back packet indications comprise changing the size of packets being sent from the maximum segment size (MSS). However, Huang teaches wherein said explicit back-to-back packet indications comprise changing the size of packets being sent from the maximum segment size (MSS) [0068]. It would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the teachings of Yoshi, Brown, and Sam with the teachings of Huang in order to improve the data flow corresponding to available bandwidth value Furthermore, the rest of the limitations of the claim are rejected for the same reasons as claim 27.

47. As for claim 34, it is rejected on the same basis as claim 27 above. The combination of Yoshi, Brown, and Sam do not disclose changing of the size of packets being sent is based on reducing the number of bits in a packet from the maximum segment size (MSS) value. However, Huang teaches wherein said changing of the size

of packets being sent is based on reducing the number of bits in a packet from the maximum segment size (MSS) value [0068]. It would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the teachings of Yoshi, Brown, and Sam with the teachings of Huang in order to improve the data flow corresponding to available bandwidth and utilizing that method of part of a congestion control scheme. Doing so improves the efficiency of a network. Furthermore, the rest of the limitations of the claim are rejected for the same reasons as claim 27.

48. As for claim 35, it is rejected on the same basis as claim 34 above. In addition, Sam teaches wherein said predetermined number of bits can be 1, 2, or 4 bits ([0146] & [0147]).

Response to Arguments

49. Applicant's arguments filed 02/25/2008 have been fully considered but they are not persuasive.

50. With respect to claim 1, applicant argues that **the claimed invention provides for controlling network congestion on the basis of *"explicitly indicating which packets within the sequence of packets are being sent back-to-back'* as recited in Claim 1. The cited references do not provide any teachings for this aspect of the invention**. However, packets are indicated as being sent back-to-back by initially un-setting the indication bit in the TCP header field such that they are marked as back-to-back by default. Furthermore, applicant argues that **by contrast, NONE of the cited**

references are directed to control congestion in response to these packet trains. However, by definition, packet fragmentation means that the packets are not homogenous. Therefore, by not marking the packets, they are recognized as being homogenous. Furthermore, Yoshi, in view of Brown, in view of Samuels, as defined in the rejection of claim 1, provide a system to control congestion in the aforementioned manner.

The applicant also argues that **first, it is seen that the use of *"packet-pairs"* are used as a bandwidth measurement with two identical packets being used. These marker packets are identical and identifiable, thus the packet-pair does not comprise packets within a sequence of packets as recited in Applicant claims**. However, two identical packets sent sequentially still equates to two packets within a sequence of packets. Furthermore, the sequence may also only comprise two packets. Continuing, the applicant argues that **the discussion is about estimating bandwidth in response to speed determinations of the packets**. However, Yoshi controls bandwidth as shown in column 2, lines 12-25 and Brown teaches speed determinations for bandwidth measurement. Again, Yoshi in view of Brown combined together under 35 U.S.C. 103 teaches the aforementioned limitations.

The applicant argues in a further statement that **In view of the above it is clear that fragmentation is not related to disruptions in the back-to-back train of packets, but is in response to receipt of a packet fragment (an error) instead of a whole packet. This is why there is no mechanism described for detecting the "fragments", because receivers are already configured to determine if received**

packets are whole and correct. However, looking at Samuels' section 0148, lines 12-18, shows that fragmentation is detecting from within a sequence, not just an individual packet.

Moving on, the applicant argues that **It can be recognized from the above that Samuels is not discussing anything relating to detecting whether packets are sent back-to-back, but of communicating the receipt of packet fragments (errors) by the receiver back to the sender to determine the maximum transmission unit (MTU) value to be used to size the packets. It will be readily appreciated that determining whether one has a partial packet is entirely different than detecting the extent to which intact packets are being received sequentially "back-to-back" as they were sent out without delays between these packets**. However, once again, it can be seen in Samuels' section 0148, lines 12-18, shows that detection from within a sequence is taking place.

Lastly, the applicant argues that **more pointedly, Samuels does not teach any *"means for explicitly indicating which packets within said sequence of packets are being sent back-to-back¢'.* Thus, combining Samuels with the other references still provides no teaching for aspects of the invention recited in the claim**. However, Samuels detects, from within the sequence, which packets are not being sent sequentially and thus, by default, detects which ones are being sent sequentially.

51. With respect to claim 14, the applicant argues that **as already discussed in relation to Claim 1, Samuels does not explicitly mark any packets, prior to sending, with an indication of whether they are being sent back-to-back.** However, marking packets in a sender is found in Samuels 0146, lines 11-15, where the receiver is a sender. The applicant later argues that **In addition, the detection of fragmentation by Samuels has been shown to detect packet fragments which does not comport to indicating the extent to which packets are being sent back-to-back**. However, packet fragmentation shows when packets are not being sent sequentially. Therefore, by default, they are marked as back-to-back.

52. With respect to claim 26, the applicant argues that **as already discussed in relation to Claims 1 and 14, Samuels neither explicitly marks any packets, nor does it determine back-to-back packet estimations**. However, these claims puts forth the same arguments as discussed in claims 1 and 14 and is thus rejected on the same basis with respect to the particular limitation mentioned in claim 26. The applicant also argues that **the detection of fragmentation by Samuels has been seen to detect packet fragments which do not relate to the extent to which packets are sent back-to-back, but only that the packet lengths are excessive**. However, the claims controlling the back-to-back packets state “estimating network bandwidth in response to receipt of explicit indications of back-to-back packets or utilizing back-to-back packet estimations.” Yoshi, in view of brown, in view of Samuels combined teaches this limitation as stated in the rejection of claim 26.

The applicant also argues that **it should be appreciated that none of the references provide any mechanism whatsoever for controlling the length of packet trains, but only for controlling the size of the packets being sent, which of course are two distinct forms of network control**. However, Samuels explains the use of congestion control parameters in 0153, lines 1-7, the RFC 2581 reference (from within Samuels) is appended and can be viewed on page 4, 2nd paragraph for more details.

53. As for claim 2, the applicant argues that **the teachings of paragraph [0148] of Samuels also lacks such teaching and provides further support that the operating principles of Samuels does not relate to registering and controlling packet trains at all.** However, in viewing RFC 2581, which was referenced by Samuels, one can clearly see congestion control techniques based on packet trains. The applicant also argues that the **mechanism can not be equated with an explicit marking that packets within a sequence of packets were sent back-to-back**. However, these arguments have already been addressed with respect to claim 1 and thus are rejected on the same basis with respect to the particular limitations argued in claim 2.

54. As for claim 4, the applicant argues that **thereby it makes no sense to assert that a back-to-back estimate is used *"for checking the presence and validity of explicit back-to-back indications from the sender"*.** However, Samuels does teach

the back-to-back packet indications where by default, they are set to being sequentially sent.

55. As for claim 8, the applicant argues that **claim 8 is directed at marking of packet header bits indicating back-to-back status prior to transmission of those packets. Therefore, these have no correlation to that which is asserted for the cited references**. However, the rejection of claim 8 clearly shows packets being marked that are being transmitted. Additional argued limitations are not represented in the claim language.

56. As for claim 13, the applicant argues that **the cited Samuels reference detects the receipt of packet fragments and communicates this back to the sender to control MTU value, nothing is put forth for marking packets being sent in relation to whether they are being sent back-to-back**. However, by default they are marked by being un-set, in order to indicate back-to-back status.

57. As for claims 9 and 18, they are argued respectively as:

1) **Applicant finds no support of this assertion in paragraph [0068] of Huang, nor can applicant find support anywhere in the Huang reference regarding explicitly indicating back-to-back packets being transmitted, such as recited within the base claims of the instant application**

2) **It will be seen that the above discusses registering departure time and not whether packets are sent back-to-back - thus by definition it is not an explicit reference.**

3) **Claim 18 contains a recitation of using the changes in MSS to explicitly mark back-to-back packets being sent in the manner of claim 9 above, but directed to base claim 14.**

However, the applicant has made an inadvertent error in the notation of the aforementioned claims. The limitation of explicitly marking or indicating packets as being back-to-back is taught by Yoshi, in view of Brown, and in further view of Samuels. The modulation of the MSS thus taught by Huang as can be seen in the rejection references.

58. As for claim 19, the applicant argues that **the cited references change packet length to accomplish direct objectives in response to fragmentation (Samuels) or bidirectional packet flow (Huang), yet there is no support given from these references that of modulating the MSS based on each packet being back-to-back with another packet prior to sending**. However, Huang clearly teaches modulating the MSS in 0068, lines 12-16. Furthermore, Yoshi, in view of Brown, in view of Samuels, teaches a system, as listed in the rejection, for marking packets "in

response to whether or not the packets are sent back-to-back." Further limitations should be addressed in the claim language.

59. As for claims 20 and 21, the applicant argues that **claims 20-21 contain further definitions of how the MSS is modulated as an explicit indicator of a packet that is sent back-to-back, and thus these claims are not obvious for the same and additional reasons as given in regard to Claim 19**. However, if the MSS is being modulated, it can only inherently modulate it with respect to a particular number of bits, for bits are the basic underlying means for which computers are able to carry out there functions.

60. As for claims 33-35, the applicant argues that **claims 33-35 depend from independent Claim 27, and recite modulation of the MSS as an explicit indicator of a packet that is sent back-to-back, in a manner as recited in dependent Claim 18, which depended from independent Claim 14. For those same reasons, Claims 33-35 are not obviated by the teachings of Huang**. However, Huang may not disclose a modulation of the MSS value as an explicit indicator of a packet that is sent back-to-back. However, Yoshi, in view of Brown, in view of Samuels, and in further view of Huang combined, do teach such a system.

61. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

62. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

   a). RFC 2581 is a system that describes multiple congestion control parameters.

63. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOSEPH L. GREENE whose telephone number is (571)270-3730. The examiner can normally be reached on Monday - Thursday from 9:00 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on (571) 272-3964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JLG

/John Follansbee/

Supervisory Patent Examiner, Art Unit 2151